

CLAIMS

What is claimed is:

1. A method for exchanging information in a shared interactive environment, comprising:

selecting a first physical device in a first live video image wherein the first physical device has information associated with it;

causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information;

wherein the manipulation includes interacting with the first live video image and the second live video image;

wherein the first physical device and the second physical device are part of the shared interactive environment; and

wherein the first physical device and the second physical device are not the same.

2. The method of claim 1 wherein:

the manipulation is accomplished by dragging the representation from the first physical device and dropping the representation on the second physical device.

3. The method of claim 1 wherein:

changes to the physical devices are visible to all participants in the shared interactive environment.

4. The method of claim 1 wherein:

a physical device can include a display, a projector, a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer.

5. The method of claim 1, further comprising:

annotating at least one of the first live video image and the second live video image.

6. The method of claim 5, further comprising:
automatically transferring the annotation to a physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image.

7. The method of claim 1 wherein:
the first live video image and the second live video image are the same.

8. The method of claim 1 wherein:
the information can include a digital file, an annotation, a sound, and an audio/video presentation.

9. The method of claim 1 wherein:
at least one of the first physical device and the second physical device has associated with it a pop-up control panel through which a user can configure and control it.

10. A method for exchanging information in a shared interactive environment, comprising:
selecting a first object wherein the first object is one of: 1) a physical device in a first live video image; and 2) an icon on a computing device;
causing information associated with the first object to be transferred to a second object wherein the second object is the other of: 1) a physical device in a first live video image; and 3) an icon on a computing device;
wherein the transfer is brought about by manipulating a visual representation of the information;
wherein the manipulation includes interacting with the first object and the second object; and
wherein the physical device is part of the shared interactive environment.

11. The method of claim 10 wherein:

the manipulation is accomplished by dragging the representation from the first object and dropping the representation on the second object.

12. The method of claim 10 wherein:
changes to the physical device are visible to all participants in the shared interactive environment.

13. The method of claim 10 wherein:
the physical device can include a display, a projector, a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer.

14. The method of claim 1, further comprising:
annotating the first live video image.

15. The method of claim 14, further comprising:
automatically transferring the annotation to the physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image.

16. The method of claim 10 wherein:
the information can include a digital file, a sound, and an audio/video presentation.

17. The method of claim 10 wherein:
the physical device has associated with it a pop-up control panel through which a user can configure and control it.

18. A method for annotating a live video image, comprising:
annotating the live video image;
automatically transferring the annotation to a physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image; and
wherein the annotation is visible to at least one participant in a shared interactive

environment.

19. The method of claim 18 wherein:

the at least one participant can interact with the physical device.

20. The method of claim 18 wherein:

each of the at least one participants can interact with the shared interactive environment through different computing devices.

21. The method of claim 18 wherein:

the live video image is one of: a panoramic view and a zoomed view.

22. The method of claim 18 wherein:

the physical device can include a display, a projector, a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer.

23. The method of claim 18 wherein:

the physical device has associated with it a pop-up control panel through which a user can configure and control it.

24. A shared interactive environment, comprising:

a camera system to provide a first live view and second live view, wherein the second live view can be configured to zoom in on a portion of the first live view;

a first graphical user interface (GUI) coupled to the camera system and to present the first live view and the second live view, wherein the views can capture a physical device;

a device controller to dynamically control the physical device in response to interaction of a first user with the GUI;

a device tracker coupled to the camera system and to dynamically recognize new physical devices; and

wherein the camera system can be mounted on a mobile, robotic platform.

25. The shared interactive environment of claim 24, wherein:
the first GUI allows the first user to interact the physical device; and
wherein the interaction of the first user is apparent to a second user via a second
GUI.

26. The shared interactive environment of claim 24, wherein:
the device controller can control the physical device through at least one of: 1) an
infrared communication channel; and 2) one or more networks.

27. The shared interactive environment of claim 24, wherein:
the device tracker can recognize new physical devices by at least one of: 1) image
pattern recognition; 2) radio frequency transmission; and 3) acoustic signal.

28. The shared interactive environment of claim 24, wherein:
the physical device can be a display; and
wherein the display can include an image stack.

29. The shared interactive environment of claim 25, wherein:
the first GUI can provide a second live view that is different from the second live
view provided by the second GUI.

30. The shared interactive environment of claim 24, wherein:
the GUI is implemented as one or more web pages.

31. The shared interactive environment of claim 24, wherein:
the first user can select the second live view by drawing a diagonal in the first live
view.

32. The shared interactive environment of claim 24, wherein:
the physical device has a pop-up control panel that can be made apparent to the

first user through the first GUI; and

wherein the pop-up control panel allows the first user to control and configure the physical device.

33. The shared interactive environment of claim 24, wherein:
the user can annotate at least one of: 1) the first live view; and 2) the second live view.

34. The shared interactive environment of claim 24, wherein:
the physical device can be represented by a set of attributes and a set of behaviors.

35. The shared interactive environment of claim 34, wherein:
the representation of the physical device is part of a device hierarchy.

36. A computer data signal embodied in a transmission medium, comprising:
a code segment including instructions to select a first physical device in a first live video image wherein the first physical device has information associated with it;
a code segment including instructions to cause the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information;
wherein the manipulation includes interacting with the first live video image and the second live video image;
wherein the first physical device and the second physical device are part of the shared interactive environment; and
wherein the first physical device and the second physical device are not the same.

37. A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:
select a first physical device in a first live video image wherein the first physical device has information associated with it;
cause the information to be transferred to a second physical device in a second

live video image wherein the transfer is brought about by manipulating a visual representation of the information;

wherein the manipulation includes interacting with the first live video image and the second live video image;

wherein the first physical device and the second physical device are part of the shared interactive environment; and

wherein the first physical device and the second physical device are not the same.

38. The machine readable medium of claim 37 wherein:

the manipulation is accomplished by dragging the representation from the first physical device and dropping the representation on the second physical device.

39. The machine readable medium of claim 37 wherein:

changes to the physical devices are visible to all participants in the shared interactive environment.

40. The machine readable medium of claim 37 wherein:

a physical device can include a display, a projector, a printer, a facsimile machine, a personal digital assistant, a computer, and a portable computer.

41. The machine readable medium of claim 37 further comprising instructions that when executed cause the system to:

annotate at least one of the first live video image and the second live video image.

42. The machine readable medium of claim 37 wherein:

automatically transferring the annotation to a physical device if the annotation is at least partially drawn over the physical device as it appears in a live video image.

43. The machine readable medium of claim 37 wherein:

the first live video image and the second live video image are the same.

44. The machine readable medium of claim 37 wherein:
the information can include a digital file, an annotation, a sound, and an audio/video presentation.

45. The machine readable medium of claim 37 wherein:
at least one of the first physical device and the second physical device has associated with it a pop-up control panel through which a user can configure and control it.

46. A system, comprising:
means for selecting a first physical device in a first live video image wherein the first physical device has information associated with it;
means for causing the information to be transferred to a second physical device in a second live video image wherein the transfer is brought about by manipulating a visual representation of the information;
wherein the manipulation includes interacting with the first live video image and the second live video image;
wherein the first physical device and the second physical device are part of the shared interactive environment; and
wherein the first physical device and the second physical device are not the same.